Amendments to the Claims

1. (Currently amended) A method of targeted delivery of mammalian stem cells of myeloid origin into a nervous system of a mammal by

selecting mammalian stem cells of myeloid origin capable of differentiating into neuronal cells; and

administering a therapeutically effective amount of said mammalian stem cells ~~of myeloid origin~~ into said nervous system of said mammal, whereby

said mammalian stem cells of myeloid origin migrate from an injection site to a preferred site in said nervous system of said mammal, and

said mammalian stem cells of myeloid origin engraft into said nervous system of said mammal and differentiate into neuronal cells.

2. (Previously amended) The method of Claim 1, wherein said mammalian stem cells of myeloid origin are isolated from at least one of the group of bone marrow, mobilized peripheral blood, umbilical cord blood, or fetal liver tissue from a mammal.

3. (Original) The method of Claim 1, wherein administration of said therapeutically effective amount of mammalian stem cells is at least one of the group of intrathecal, intraventricular, intracisternal, intraparenchymal into the brain or spinal cord, or systemic.

4. (Original) The method of Claim 1, wherein administration of said mammalian stem cells of myeloid origin is a combination of at least two of the group of intrathecal, intraventricular, intracisternal, intraparenchymal into the brain or spinal cord, or systemic.

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Original) The method of Claim 1, wherein delivery of said mammalian stem cells of myeloid origin comprises delivery of cells expressing CD34.

9. (Cancelled)

10. (Previously amended) A method of modifying neuronal growth of a mammal by administering a therapeutically effective amount of mammalian stem cells of myeloid origin into a nervous system of said mammal, whereby

said mammalian stem cells of myeloid origin migrate from an injection site to a preferred site in said nervous system of said mammal,

said mammalian stem cells of myeloid origin engraft into said nervous system of said mammal at said preferred site,

said engrafted mammalian stem cells of myeloid origin differentiate into neuronal and glial cells,

said neuronal and glial cells replace damaged nervous system tissue.

11. (Previously amended) The method of Claim 10, wherein said mammalian stem cells of myeloid origin are isolated from at least one of the group of bone marrow, mobilized peripheral blood, umbilical cord blood, or fetal liver tissue from a mammal.

12. (Original) The method of Claim 10, wherein administration of said therapeutically effective amount of mammalian stem cells is at least one of the group of intrathecal, intraventricular, intracisternal, intraparenchymal into the brain or spinal cord, or systemic.

13. (Original) The method of Claim 10, wherein administration of said therapeutically effective amount of mammalian stem cells is a combination of at least two of the group of

intrathecal, intraventricular, intracisternal, intraparenchymal into the brain or spinal cord, or systemic.

14. (Cancelled)

15. (Cancelled)

16. (Original) The method of Claim 10, wherein administration of said therapeutically effective amount of mammalian stem cells of myeloid origin comprises delivery of cells expressing CD34.

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (New) The method of Claim 1, wherein the step of selecting mammalian stem cells further comprises selecting $CD34^+$ cells.

21. (New) The method of Claim 1, wherein the step of selecting mammalian stem cells further comprises selecting $CD38^-$ cells.

22. (New) The method of Claim 1, wherein the step of selecting mammalian stem cells further comprises selecting KDR^+ cells.

23. (New) The method of Claim 1, wherein the step of selecting mammalian stem cells further comprises selecting HLA-DR^- cells.

24. (New) The method of Claim 1, wherein the step of selecting mammalian stem cells further comprises selecting for at least one of the group consisting of $CD34^+$, $CD3^-$, $CD7^-$, $CD8^-$, $CD10^-$, $CD14^-$, $CD15^-$, $CD19^-$, $CD20^-$, $CD33^-$, Class II HLA^+, Thy-1^+, and KDR^-cells.